

Diesel Engine Replacement Program **Conservation Activity Job Sheet** **(NJAir03)**

New Jersey's air quality is classified in the non-attainment category for particulate matter (PM), nitrous oxides (NOx) and other ozone precursors. Diesel engines, including engines used on farms to pump irrigation water, contribute a significant amount of these pollutants, as shown in various studies from the Environmental Protection Agency (EPA).

Since the early 1970s, EPA has set increasingly stringent emission standards for highway cars and trucks. After making much progress in controlling highway emissions, the Agency turned to the wide variety of non-road engines, which also contribute significantly to air pollution. New emission standards (Table 1) for these engines will reduce harmful air pollution and help states meet the National Ambient Air Quality Standards, as required by the Clean Air Act.

The replacement of older diesel engines, which emit high levels of NOx and PM from the exhaust, with new certified diesel engines or new electric motors will substantially reduce the emissions of NOx and PM into the air.



In order to encourage replacement of these older engines that do not meet current air quality standards, NRCS will provide payments to qualified agricultural producers for the purchase of new Tier 2 or Tier 3 engines to replace existing stationary or portable* irrigation pumps. The program is open to all growers, regardless of farm size or commodity(s) grown.

Program Specifics

- The diesel engine to be replaced must be a currently functioning stationary or portable* (non- self propelled) old diesel engine used for pumping irrigation water.
- Diesel engines between 50 HP and 150 HP are eligible for payment in 2007 (see Table 2).
- Replacement engines must meet current EPA Tier standards for new diesel or new electric motors (see Table 1).
- Replacement engines or motors must be within 25 percent of existing engine's horsepower rating.
- The replaced diesel engine cannot be sold. The engine must be taken to a scrap yard and a signed Certificate of Disposal must be completed and returned to the NRCS before payment can be dispersed.
- Fueling and/or electric infrastructure is not eligible for payment.

** Portable non-self propelled power unit utilized for irrigation water movement. Non-self propelled units are further defined as those systems without a drive train to move unit.*

Table 1: EPA Engine Tier Requirements

| Engine Power | Tier | Year | CO | NMHC+NO _x | PM |
|------------------------------------|--------|------|-----------|----------------------|------------------------|
| kW < 8 (hp < 11) | Tier 2 | 2005 | 8.0 (6.0) | 7.5 (5.6) | 0.8 (0.6) |
| | Tier 4 | 2008 | 8.0 (6.0) | 7.5 (5.6) | 0.4 ^a (0.3) |
| 8 ≤ kW < 19 (11 ≤ hp < 25) | Tier 2 | 2005 | 6.6 (4.9) | 7.5 (5.6) | 0.8 (0.6) |
| | Tier 4 | 2008 | 6.6 (4.9) | 7.5 (5.6) | 0.4 (0.3) |
| 19 ≤ kW < 37 (25 ≤ hp < 50) | Tier 2 | 2004 | 5.5 (4.1) | 7.5 (5.6) | 0.6 (0.45) |
| | Tier 4 | 2008 | 5.5 (4.1) | 7.5 (5.6) | 0.3 (0.22) |
| 37 ≤ kW < 75 (50 ≤ hp < 100) | Tier 2 | 2004 | 5.0 (3.7) | 7.5 (5.6) | 0.4 (0.3) |
| | Tier 3 | 2008 | 5.0 (3.7) | 4.7 (3.5) | -† |
| 75 ≤ kW < 130 (100 ≤ hp < 175) | Tier 3 | 2007 | 5.0 (3.7) | 4.0 (3.0) | -† |
| 130 ≤ kW < 225 (175 ≤ hp < 300) | Tier 3 | 2006 | 3.5 (2.6) | 4.0 (3.0) | -† |



Documentation Required: Receipt documenting the purchase of a new diesel or electric motor; AND certification that the purchased product meets Tier 2 or Tier 3 standards; AND Certificate of Disposal for the replaced engine.

Table 2: 2007 Payment Rates

| Engine Power | Tier | Payment |
|-----------------------------------|--------|----------|
| 37 ≤ kW < 75 (50 ≤ hp < 100) | Tier 2 | \$3000 |
| | Tier 3 | \$5100 |
| 75 ≤ kW < 130 (100 ≤ hp < 150) | Tier 3 | \$10,050 |